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Please find below and/or attached an Office communication concerning this application or proceeding.

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1   RECORD OF ORAL HEARING
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3   UNITED STATES PATENT AND TRADEMARK OFFICE
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6   BEFORE THE BOARD OF PATENT APPEALS
7   AND INTERFERENCES
8   _____
9
10   Ex parte MASAAKI HIROKI, AKIRA MASE,
11   and SHUNPEI YAMAZAKI
12   _____
13
14   Appeal 2008-0123
15   Application 08/372,899
16   Technology Center 2600
17   _____
18
19   Oral Hearing Held: May 14, 2008
20   _____
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22
23   Before KENNETH W. HAIRSTON, MAHSHID D. SAADAT, and
24   ROBERT E. NAPPI, Administrative Patent Judges.
25
26   ON BEHALF OF THE APPELLANTS:
27
28   ERIC ROBINSON, Esquire
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33   The above-entitled matter came on for hearing on Wednesday, May

34   14, 2008, commencing at 9:00 a.m., at The U.S. Patent and Trademark

35   Office, 600 Dulany Street, Alexandria, Virginia, before Timothy J.

36   Atkinson, Jr., Notary Public.

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1   MS. BOBO-ALLEN: Good morning. Calendar No. 12, Appeal No.

2 2008-0123. Mr. Robinson.

3   JUDGE HAIRSTON: Okay, thank you.

4   MS. BOBO-ALLEN: Um-hum.

5   MR. ROBINSON: Good morning, Your Honor.

6   JUDGE HAIRSTON: Good morning.

7   MR. ROBINSON: Should I begin?

8   JUDGE HAIRSTON: Yes, please.

9   MR. ROBINSON: This case this morning we feel the invention that's

10 recited in the claims has three important features that I'd like to talk about

11 and focus on in my remarks. These were set forth in the, in the appeal brief I

12 believe fairly clearly. And the first feature is in the method of driving a

13 display device, we have a plurality of constant width pulses representing a

14 gradation value being applied to a pixel electrode through a TFT. So the

15 critical parts of that first feature are plurality of pulses, they have a constant

16 width and they're applied through a TFT.

17   The second important distinguishing feature we feel is that that is

18 done during a predetermined scan period. So we recite there is a period

19 that's predetermined, and that process applying those pulses is during that

20 period.

21   And then the third feature is that an average voltage of those pulses

22 that are applied is maintained on the pixel electrode after that scan period.

23 So those are the three features we think are most important in the claims that

24 are pending before the Board today.

25   The specification describes the purpose of this invention as a way of

26 achieving better gradation in a display. It particularly focuses on what we

1   call an active matrix display, which I'm sure you're familiar with, having a

2   TFT at each of the pixels, and it describes in there problems with the voltage

3   in each of the TFTs varying across a substrate. Whether it's a gate voltage or

4   a source drain voltage that's coming through the TFT, it describes a problem

5   in maintaining a consistent gradation display based on that voltage,

6   characteristics of the TFT fluctuating.

7   And one of the solutions that's not claimed, but one of the solutions

8   that's discussed in there is a process by which you average that over a period

9   of frames. For example, a TFT may not switch halfway very easily, but it

10 will switch on or off much better. So they will average a period of frames,

11 so if you have 10 frames, you can turn five of them on and five off to get a

12 50 percent gradation. Problem with that is your display gets very slow. The

13 -- because you're, you're losing your drive frequency, the period of frames

14 takes a longer period of time, and you will start to see flicker.

15   So the invention here, and admittedly this was a very, very long time

16 ago, over 10 years ago that this was, was developed, was to solve that by

17 coming up with a digital system to --

18   JUDGE HAIRSTON: Well, what took so long to get here?

19   MR. ROBINSON: I'm not --

20   JUDGE HAIRSTON: I notice there were a lot of information

21 disclosure statements filed --

22   MR. ROBINSON: There were a number of information disclosure

23 statements, and the Board returned it for that at one point, and I think the

24 Board also returned it at one point for an issue with inventorship, if I'm

25 remembering correctly, but it seemed that there was -- during the appeal

1 process that there was some progress being made in reviewing it in even

2 terms.

3 　　　　JUDGE HAIRSTON: Okay, okay.

4 　　　　MR. ROBINSON: So I wasn't exactly sure -- we, we asked the same

5 question, Your Honor.

6 　　　　JUDGE HAIRSTON: Okay.

7 　　　　MR. ROBINSON: But, but I thought that it was moving along at a

8 reasonable rate.

9 　　　　JUDGE HAIRSTON: Okay.

10 　　　　MR. ROBINSON: So the, the system that's, that's being proposed

11 here is a digital system where these plurality of pulses which are more -- can

12 be more accurately controlled, are applied during this scan period, during

13 this preselected period, in which the, the TFT is addressed.

14 　　　　The rejection, three references. We have Inaba which is the primary

15 reference, which I think is the most important reference. We have Kanatani

16 which is cited for teaching of a TFT. Inaba is directed to a passive matrix

17 type display, so it doesn't have a TFT at each of the pixels. Kanatani is cited

18 for teaching that TFT. And then we also have admitted prior art or

19 Castleberry which is directed to the, the feature of the maintaining an

20 average of pulses after the scanning period or the third feature I talked about.

21 　　　　Broadly, it's our feeling that these teachings are, are somewhat

22 disjointed and that the arguments that are being presented below by the

23 Examiner are somewhat misleading and mischaracterize the fair teachings of

24 the references, and that's what I want to discuss. With respect to Inaba, as I

25 mentioned, it's a passive matrix display device, and it discloses a single

4

1   pulse applied during a scan period. The specifics of Inaba is that they're

2   addressing a similar problem, this gradation --

3   　　　JUDGE HAIRSTON: Single pulse per scan period?

4   　　　MR. ROBINSON: Yes.

5   　　　JUDGE HAIRSTON: Okay.

6   　　　MR. ROBINSON: Now just to be perfectly fair, we'll get to the

7   teaching at column 8, lines 4 through 9, that refers to a generalized

8   discussion of other known driving methods. So it does at that -- that point is

9   perhaps the most important teaching to discuss today.

10   　　　But before we get there, Inaba is addressing a similar problem, and

11   they solve it by providing some reset pulses to the liquid crystal material

12   before they provide the driving signal to it, and if you look at figure 9 of

13   Inaba, that's where you can see, Your Honor, most clearly the, the single

14   pulse, and you can see scan lines S-1, S-2, S-3. Each of them are put

15   together, scanned in sequence, and during that the data line on scan line 1

16   receives this single pulse shown here, and then there is a break. I'd have to

17   draw some lines, but then the next pulse to scan line 2, so there is a single

18   pulse here. What, what the Examiner has noted is in column 8, lines 4, there

19   is this generalized disclosure to other known driving methods, and in that it

20   makes reference to, as we, we quoted it in our -- in the brief, it makes

21   reference saying that it -- the present invention is also applicable to other

22   known driving modes wherein the pulse duration or pulse number is varied

23   dependent on given gradation data.

24   　　　Now that's as far as Inaba goes in that disclosure there. It doesn't

25   describe the details of the pulse number, whether they would be during the

26   same scanning period or different scanning periods, whether they would

1   importantly have a constant width or not, and it makes reference to this other

2   known driving methods, but we don't have any teachings about them, so we

3   don't know exactly what Inaba is referring to. That's all we've got is that

4   generalized discussion there.

5   Now even if Inaba reaches far enough with this disclosure to be

6   enabling with respect to a plurality of pulses, we don't think it's enough with

7   respect to the overall obviousness rejection.

8   The, the important parts about that as I, as I touched on before, and I

9   want to talk about that because I think that's the most troubling disclosure in

10   this case, is that we are having -- reciting this predetermined scan period

11   during which the TFT and the pixel is addressed, and the plurality of the

12   pulses are applied during that period while it is addressed, and we think

13   that's important, that related appeal that we provided we think was, was

14   focusing on timing issues and the fact of when the pulses are applied before

15   or after, during the scanning process. We think that's important, and that's

16   the first part where Inaba doesn't get very far in enabling what is skill in the

17   art is it simply has this generalized discussion of a number of pulses. It

18   doesn't say how they're applied, how they should be structured or anything

19   with respect to the details of the driving circuit.

20   The other issue with respect to Inaba is this constant pulse width.

21   That's not in Inaba, and the Examiner's answer makes reference a number of

22   times to it being in there, and I can discuss that if I have time at the end, but

23   Inaba doesn't, doesn't actually say that. That's reading into Inaba's disclosure

24   more than, than what's there in the, in the words of the reference.

25   Talking -- even if we, we have a plurality of pulses in Inaba, when we

26   get to Kanatani, which is a secondary reference that's being relied upon to

1   teach the use of the TFT, initially Inaba and Kanatani are two different types

2   of displays. One is passive matrix. One is active matrix. Present invention

3   is an active matrix with the TFT, and as I described at the beginning, the

4   problems that the present invention is directing with how the voltages

5   fluctuate on a myriad of TFTs across the substrate is, is part of the, the issue

6   here. But the Examiner asserts that the teaching in Kanatani of a TFT would

7   be obvious to apply to Inaba because it, it would be needed to turn and off

8   pixels. We don't, we don't agree with that, primarily because it's not just a

9   simple matter of taking a TFT from an active matrix display and putting it in

10   a passive matrix display. Changes have to occur to the driving circuit --

11   JUDGE HAIRSTON: Did, did you challenge the Examiner's premise

12   that it would be obvious to convert the passive to the active?

13   MR. ROBINSON: I believe we did. I think the reply brief touches on

14   that most directly, and pages 3 through 4, the paragraph -- 3 through 4 in the

15   reply brief I think is where that's most directly addressed.

16   JUDGE HAIRSTON: Okay.

17   MR. ROBINSON: So simply changing the passive to an active

18   involves more than moving a TFT over there. Furthermore, the Inaba device

19   already has a way of turning on and off pixels. The alleged motivation of

20   turning them on and off is taught in the passive matrix device of Inaba in a

21   way that's acceptable to a passive matrix type of device. So the addition of

22   adding the TFT to turn on and off the pixels isn't there. Admittedly, that's a

23   motivation argument and, and we're post KSR which we can --

24   JUDGE HAIRSTON: So are you saying it's not a sound basis?

25   MR. ROBINSON: Yeah, it's -- we --

26   JUDGE HAIRSTON: A rational basis?

1   MR. ROBINSON: Yeah, we don't think it's a rational basis to, to

2 make that combination. And then the next features, feature 3 of maintaining

3 the average voltage of the pulses after the scanning period, we have two

4 areas, the admitted prior art and Castleberry. Now the admitted prior art is

5 directed to the feature that as I understand that I described earlier where a

6 voltage across a period of frames is maintained by turning some pixels all

7 the way on and some pixels all the way off.

8   JUDGE HAIRSTON: I read your paragraph concerning figure 11,

9 and what is the average here? I don't see an average.

10   MR. ROBINSON: I'm sorry, paragraph -- which paragraph did you

11 read?

12   JUDGE HAIRSTON: In your, in your spec describing figure 11, I

13 really didn't understand it.

14   MR. ROBINSON: And which page are you looking at here?

15   JUDGE HAIRSTON: Oh, I remember reading it, and you, you talked

16 about an average in connection with figure 11.

17   MR. ROBINSON: Would it be page 5 perhaps --

18   JUDGE HAIRSTON: Hold on. Yes.

19   MR. ROBINSON: Yeah, this is -- what I'm understanding is --

20   JUDGE HAIRSTON: What, what is the average voltage here?

21   MR. ROBINSON: What I'm understanding is as I described in the, in

22 the beginning that one of the ways of previously and the -- this is in the

23 summary of the invention, but it refers to a conventional method, and that

24 conventional method was where across a plurality of frames, since you are

25 using a TFT that you can turn either on or off, it's a digital on or off without

26 a gradation, what they would do is select if you wanted 25 percent gradation

1   for, for example, if you have eight frames, you would turn it on for two of

2   them and off for six of them.

3   JUDGE HAIRSTON: Um-hum.

4   MR. ROBINSON: And then the result of it being on for two and off

5   for six across those eight frames, the average would be 25 percent. So this is

6   -- the, the problem with this teaching and with Castleberry is it's directed

7   broadly to maintaining average voltages, but it's not directed to the feature of

8   maintaining an average voltage of a plurality of pulses. It's that connection

9   of the average of the pulses, and this is resulting -- is directed --

10   JUDGE HAIRSTON: So that can't be read on the last clause of your

11   Claim 21 then?

12   MR. ROBINSON: We don't believe it can fairly be read on it,

13   because it's, it's disconnected. It's just an average teaching. It's not a

14   teaching of the average of the pulses, and we don't think that this teaching

15   was directed -- which is directed to averaging across frames would lead one

16   of skill in the art to say hey, I'm going to have an average of pulses, or these

17   pulses should be applied in average, because this is a different method. This

18   is effectively a prior art technique that our invention improves over.

19   JUDGE HAIRSTON: It is prior art to you, right?

20   MR. ROBINSON: I --

21   JUDGE HAIRSTON: Your figure 11 is prior art to you -- to your, to

22   your own inventor?

23   MR. ROBINSON: You know, I'm, I'm always hesitant to agree to

24   that, but I am, I am reading here that it says with the conventional display

25   device as shown in figure 11. I would like to check, did we label it prior art?

26   JUDGE HAIRSTON: You said conventional.

9

1   MR. ROBINSON: Yeah. You know, I'd have to -- I would have to

2   read this to say I'd admit that it was prior art. I wouldn't want to stand here

3   before you without reading this in more detail, but it's my belief it most

4   likely is at this point, Your Honor.

5   JUDGE HAIRSTON: Okay, okay.

6   JUDGE NAPPI: Caption at page 1 says prior -- description of prior

7   art.

8   MR. ROBINSON: Yeah, but then we go to a summary of an

9   invention beginning on page 4, and so this actual discussion, and I, I was just

10   looking at this before I came in, this discussion is in the summary of the

11   invention, which the Examiner cites, but it refers in the paragraph that Judge

12   Hairston noted --

13   JUDGE HAIRSTON: Well, this is a terrible way of patent drafting. I

14   mean you're mixing apples and oranges. I mean you've switched to your

15   summary of the invention. Then you throw in the word "conventional" and,

16   you know, what are we supposed to do with it?

17   MR. ROBINSON: I am not going to defend the drafting of this

18   application.

19   JUDGE HAIRSTON: Yes.

20   MR. ROBINSON: I didn't personally draft this, but I, I can

21   understand your, your comment about that. So it's accepted.

22   JUDGE HAIRSTON: Yeah.

23   MR. ROBINSON: With respect to the Castleberry reference, which is

24   another reference that's relied upon for this average, Castleberry uses

25   something called a correction voltage, and what Castleberry is directed to --

26   as we understand it's directed to is you get certain parasitic capacitances or

10

1　other issues in the device that cause the voltage on the pixel electrode

2　usually I think to, to tail off, Judge, so that you probably know much better

3　than I do from your experience. But I think that voltage tends to drop off

4　over a period of time, and what we understand Castleberry does is it puts a

5　correction voltage back on there to, to pull it back to, to where it needs to be.

6　But again, the connection with this, we -- what, what we saw in this is it's

7　average. It's an average voltage on a pixel electrode perhaps, but it's not

8　related to an average of the plurality of pulses and that's -- we don't think it

9　gets to that, that threshold, to that level where what a skill artisan would

10　make that connection without more.

11　　　　If I could just briefly in the time I have left, I want to look at the

12　Examiner's Answer, and I think there's a couple things that I, I want to

13　highlight, because I don't know how much time I have.

14　　　　JUDGE HAIRSTON: You can take a couple minutes.

15　　　　MR. ROBINSON: Okay, but in the answer, I don't see page numbers,

16　but it's paragraph 13, second or third from the last page in response to

17　argument. There's a statement the Examiner disagrees since Inaba, et al.

18　teach the limitation of, and there is a quote here, and I looked for this quote,

19　because I was, I was concerned about --

20　　　　JUDGE HAIRSTON: I'm sorry. Where, where are you reading

21　from? I'm sorry.

22　　　　MR. ROBINSON: It's the response of the argument. Do you have

23　this page? And it's right first paragraph under 13, response to argument.

24　　　　JUDGE HAIRSTON: Okay.

25　　　　MR. ROBINSON: And there is this quote that they teach the

26　limitation of, and there's a quote there. That's not in Inaba as far as I can see.

1   I pulled up Inaba online yesterday and searched for this quote. I can't find it.

2   It's a closer quote to our claim limitation, but it's not exactly that either with

3   respect to the I and the S-1, and I think a word is missing after pulse. So

4   this, this quote was misleading. I just want to make sure I bring that to your

5   attention, that's not in Inaba as a quote.

6   JUDGE HAIRSTON: Okay.

7   MR. ROBINSON: At the bottom of that same page, bridging over to

8   the next page, the Examiner states that Inaba have disclosed three different

9   ways for providing a tone of image on a display, and it lists three ways. But

10 as I said earlier this, this reads into Inaba because this -- these words and,

11 and teachings aren't here, and particularly teaching 3, a data -- data signal

12 having a constant pulse width but width -- sorry, but a different number of

13 pulses.

14   JUDGE HAIRSTON: You think he has mixed your claim language in

15 with what's in Inaba?

16   MR. ROBINSON: I think it's mixed in, and it's citing that column 8,

17 lines 1 through 9, that simply says, you know, as we talked earlier, it says

18 that there's more could be -- let me get the exact language because I don't

19 want to -- since we're being critical of quotes here, I don't want to misquote.

20 It says pulse number is varied, but it doesn't say anything about a data signal

21 having a constant pulse width but different number of pulses. So that

22 teaching I don't think is a fair -- that statement I don't think is a fair

23 characterization of what Inaba actually teaches. I couldn't find, you know,

24 that teaching in the reference.

25   The -- in the, in the grounds of rejection and in paragraph 11 of the

26 answer, it's a similar concept, but in discussing Inaba, this is at the very

1   bottom of the page, the answer makes a statement a data signal having a

2   plurality of pulses with a constant pulse width. Again, Inaba doesn't really

3   teach that. It doesn't -- it's silent about the, the pulse width if you are going

4   to try to say that the, the teaching at page 8 with respect to the pulse number

5   being varied --

6   JUDGE HAIRSTON: So just pulse duration and pulse number are

7   mentioned in Inaba?

8   MR. ROBINSON: Yes, that's what it says at that portion of it. The --

9   in order to find constant pulse widths, you have to look across the scan

10   periods, and Your Honor, you noted that in figure 9 you have to go from

11   scan period to scan period to look at those different amplitudes. You can

12   find pulses in Inaba that have the same width, but they are not pulses applied

13   during the same scan period, and if you take the teachings of, of column 8

14   directed to the pulse duration or pulse number, there is no discussion that the

15   pulse width is the same. So there is no nexus between those two concepts

16   that we find in Inaba. That's, that's -- really if I have to leave you with

17   something it's, it's that. We feel there is a lot of disjointed teachings of

18   generalized concepts, but there's not enough that's going to lead one of skill

19   in the art to pick and choose those and put them together. And that's how we

20   closed our reply brief. We, we made that point.

21   JUDGE HAIRSTON: Okay.

22   MR. ROBINSON: And I think I'm probably out of time, so I can stop

23   there unless there's questions.

24   JUDGE HAIRSTON: Okay. Any questions?

25   JUDGE SAADAT: No questions.

26   JUDGE HAIRSTON: Thank you.

1   MR. ROBINSON: Okay, thank you for your time this morning.

2   (Whereupon, the hearing concluded on May 14, 2008.)